are bones, he observes, in limestone caves of Wellington valley, which prove to be those of gigantic marsupials, now extinct; but with the exception of these, few fossils have been found in New South Wales. The impressions of a fern and of a fish, some corallines, molluscous shells, and a few radiata, are all that he has yet seen or heard of. No crustacea or annulosa or cirripedous shells have yet been found, nor reptiles or birds. Indeed, he observes, this *new* country is in reality a very old one, if we may judge from the low organization of its fossil remains.

" Mr. MacLeay asks many questions regarding India, which perhaps we shall do better by publishing than by attempting to answer ourselves. He is particularly interested in those fossil remains which, as he himself expresses it, 'fill up gaps in the chain of living nature,' and asks if we have any Trilobites. They occur, he says, at the Cape of Good Hope, and might be expected in Silurian rocks. He is desirous of being informed if leeches abound in the dark damp forests of India, and also if there be any insects parasitical in ants' nests, and whether bees and wasps are infested with parasites in India. He is desirous of having some of the Hymenopterous and Dipterous insects of India, with all the parasitical kinds, and the names of the animals they infest. We had sent a small collection of the commoner insects collected in the cold season, but Mr. MacLeay is now desirous of having some of those which are found on plants of various kinds during the rains; and in making collections during winter, he recommends stones to be turned, and the bark of trees to be removed in search of the rarer sorts. Calcutta is not the most favourable place for making collections of any kind, but we shall procure what we can; we shall also be very happy to forward to Mr. MacLeay any collections that may be entrusted to us for the purpose by friends in the *Mofussil*."—*Calcutta Journal of Natural History*, No. 2.

MISCELLANEOUS.

A new Genus of Mexican Glirine Mammalia.—Mr. John Phillips, who has lately returned from Real del Monte, Mexico, has, at the recommendation of Mr. John Taylor, sent to the British Museum the skins of some very rare and interesting birds, of a *Bassaris*, and of the new animal which I shall now proceed to describe. This animal is very interesting, as having all the external form and colouring of a *Gerboa*; and it is doubtless the American representative of that African genus, though differing from it very essentially, in being provided, like some other American genera, as *Saccophorus*, *Saccomys*, and *Heteromys*, with large cheek-pouches, which open externally on the side of the cheeks. I propose to call it

Dipodomys.

Body covered with soft hair. Head moderate, with large cheek-pouches opening externally on the side of the cheeks. Ears and eyes rather large; the fore-legs short; the hind tarsus long and slender; the hind feet very long; the soles covered with hair; toes 5—4. The tail much longer than the body, covered with rather short hair, and with a dilated brush at the end; the upper cutting teeth grooved in front. Grinders —— ?

This genus differs from all those above cited in the tail being elongated and covered with hair, with a pencil at the ends like the *Gerboas*, and from *Saccomys* in the soles of the hind feet being hairy.

DIPODOMYS PHILLIPII, *Gray*.

Grey-brown, with longer black hairs; sides sandy; side of the nose, spot near the base of the ears, band across the thigh and beneath, pure white; nose, spot at the base of the long black whiskers, and at the base of the tail, black; tail black-brown, with the band on each of its sides and tip white; penis ending in a long spine. Length: body and head 5 inches; tail $6\frac{1}{2}$ inches; hind feet $1\frac{1}{2}$ inch.

Inhab. Mexico, near Real del Monte. John Phillips, Esq.

I may here remark, that *Bassaris*, like the Weasels, has the soles of the feet covered with hair, and appears to be more allied to that genus than to the Gluttons (*Gulo*).—J. E. GRAY.

ON A NEW EUROPEAN GENUS OF FRESHWATER FISH. BY F. HECKEL*.

If we cast a view on the numerous new species of freshwater fish with which the ichthyologists of England, Scandinavia, Russia, France, Germany, and especially those of Italy, have of late, after careful comparison, made us acquainted, there needs no great foresight to suspect new species also in the western and south-eastern districts of Europe, which, in this respect, may nearly be regarded as *terra incognita*. But if it had been asserted that there might still occur on land or in fresh water in Europe a remarkable vertebrate animal which had hitherto remained unknown which would deserve to form an absolutely new genus, this assertion would have met with no favourable reception, as much too hazardous, and as a phænomenon which, after such great progress in Natural History, might have been expected only in distant regions far removed from all cultivation. But that which was so little to be expected is now established as a fact. An ichthyological journey in Dalmatia which I had occasion to undertake towards the close of last summer, in which it was my chief purpose to examine most accurately all the fresh waters of this highly interesting country, afforded me not only several hitherto unknown species, but, to my great joy and astonishment, an animal so remarkable even in a physiological respect, that it fully claims to be regarded as a peculiar and highly characteristic genus. It occurs near the frontiers of Bosnia, and also in Bosnia, pretty frequently, and belongs to the large family of the *Cyprinidæ*. The principal character by which it is distinguished among the latter, is a fleshy canal which coheres longitudinally with the first ray of the anal fin, and represents an external tubular appendix of the anus, by which the anal aperture terminates at the extremity of this fin-ray or rather at the end of the fin itself. Among all hitherto known fishes, the curious *Anableps tetrophthalmus*, from the rivers of Brazil and Surinam, alone possesses anything analogous. In other respects our fish approaches most nearly in general habit those of the genus *Barbus*, Cuvier, but has decidedly *no* scales. The more complete description of it will appear next spring in my intended work on the freshwater fish of Austria, on which occasion all the new species will be most perfectly and truly represented with the aid of my ichthyometer. In the mean time, I will call this highly remarkable new genus *Aulopyge*, and feel greatly honoured in dedicating the same to my highly honoured Mecænas Baron von Hügel, by giving his name to the only species as yet known.

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* Translated by Mr. W. Francis from the original, communicated by J. E. Gray, Esq.

FORBES'S STARFISHES—ECHINUS LIVIDUS.

Cork, June 25, 1841.

"Upon looking into the above interesting work, I find it stated, in the description of *Echinus lividus*, that the animal bores into limestone *only*. Now I can say that it is by no means confined to that rock, as all those that occur on the coast of the county Clare, south of the Islands of Arran, an extent of several miles, to the mouth of the river Shannon, are imbedded in a transition slate ? much harder than any limestone with which I am acquainted. The specimen which was sent, some years past, to the late Mr. Bennett by my friend J. D. Humphreys here, and described in the 'Linnæan Transactions,' is composed of the same kind of rock.—SAMUEL WIGHT."

Speaking Canary Bird.—In the notice at p. 238. vol. i. of the 'Annals,' the faculty of imitating articulate sounds was noticed as not having been before observed in the Canary Bird. A similar fact, however, is recorded by Madame Roland in the very interesting memoir of her life. Speaking of the good nun, Sœur Sainte Agathe, from whom she had received great kindness when at the convent school, she says, "Elle m'emmenait quelquefois dans sa cellule, où elle avoit un Serin charmant, familier, caressant, à qui elle avoit appris à parler."

BIRDS OF KENT.

Mr. Mummery has communicated the following notices of Birds lately taken in the Isle of Thanet:—

"May 6th, at Sacket's Hill, about a mile from Margate, I shot a beautiful specimen of the *Oreolus galbula*, or Golden Oreole, a female in fine plumage. On dissection it was found to contain sixteen small eggs. On the same day I shot a beautiful specimen of the *Lanius rufus*, or Wood Chat Shrike. I have also seen at Sacket's Hill a beautiful bird, the *Nucifraga Caryocatactes*, or Nutcracker: I kept in sight of it for about two hours without being able to get a shot at it.

"Several *Limosa rufa*, or Bar-tailed Godwits, have been captured in this neighbourhood, especially at North Shore, near Sandwich. A friend of mine shot fourteen in one shot, the largest number at one time I have heard of. I have shot several, some of them being very splendid birds in full plumage, several of which are in skins for sale.

"I have also shot a very fine *Totanus glareola*, or Wood Sandpiper; and a pair of *Charadrius Cantianus*, or Kentish Plover, male and female, very beautiful birds: the female is in the Margate Museum."

3, Bath Road, Margate, Kent.

Mr. Mummery, who is now on his way to the Orkney Islands, on an ornithological expedition, also informs us that two Porbeagle Sharks, a male and a female, have just been taken at Margate in a mackerel-net, and are designed for the Museum there.

EMBERIZA HORTULANA.

Henfield, Sussex, May 29.

Sir,—As it appears to me that the occurrence of every rare animal ought to be made known to those who take an interest in Natural History, I send you the following notice, thinking that the Editors may probably consider it worthy of insertion in their Magazine.

On the 29th of April a very perfect specimen of the Ortolan Bunting, *Emberiza Hortulana* of Jenyns, 'Brit. An.' p. 132, was shot whilst sitting on the parapet of the viaduct of the Brighton and London Railway, near the Brighton terminus. When first seen it was very restless, flitting about and uttering an incessant shrill chirping note. This specimen, which is now in my possession, agrees in every respect with the descriptions of Mr. Jenyns and of Mr. Yarrell, except that the tail has a portion of the inner webs of *three* of the outer feathers white instead of *two*.

This is, I believe, at most only the sixth specimen which has hitherto occurred in Britain.

I am, Sir, yours obediently,
Richard Taylor, Esq. WM. BORRER, Jun.

Diluvial Scratches.—"Large areas of this rock being uncovered for the purpose of quarrying, it is found planished as if by the friction of some heavy body moving over it, and marked by parallel grooves, which are regarded by Dr. Locke as 'diluvial scratches*;' they are found at 'Light's quarry, east of the Miami, and seven miles above Dayton, thus rendered particularly interesting by the discovery in it of 'diluvial grooves,' a circumstance which I had thought probable from the fact of the planishing or grinding down of the strata' first observed at Col. Partridge's quarry, 'where the upper surface, especially at the apex of its convexity, has its roughness nearly worn off, not by corrosion or by decomposition, nor by the attrition of sand and gravel, but by the grinding of a flat surface, making the work, so far as it went, a perfect plane, and leaving the pits of the deepest cavities entirely untouched†.' 'Light's quarry has been 'stripped' of soil, more or less, over ten acres, and the upper layer of stone is in most places completely ground down to a plane, as perfectly as it could have been by a stone-cutter by polishing.' 'In many places, grooves and scratches in straight and parallel lines are distinctly visible, evidently formed by the progress of some heavy mass, propelled by a regular and uniform motion. The grooves are in width from lines scarcely visible to those three-fourths of an inch wide, and from one-fortieth to one-eighth of an inch deep, traversing the quarry from between north 19°, to north 33° west, to the opposite points in lines *exactly straight*, and in fascicles of sometimes ten in number, *exactly parallel*: clearly in compact limestone, without seam or fault of any kind, and in a surface ground down to a perfect plane.' To illustrate these appearances, a portion of the stone was taken, and by the process of 'medal ruling,' a perfect engraving was made by the tracer, and a picture is given in the report (p. 230) of great distinctness. The blue limestone abounds with the *Strophomena* of Raf., while the cliff has few of them. The shell of the fossils is often preserved in the blue, while in the cliff limestone only the cast is found."—*Silliman's American Journal, Jan.* 1841.

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* [They will now, perhaps, be claimed by some of our geologists as *glacial.*—ED.]

† These cavities are found, where another layer of the rock lies upon this, to answer to salient points in the upper one, and the "natural surface of the stone is within certain limits as rough as can be conceived, there being sharp teeth, an inch long, projecting from one layer and entering the contiguous one."

To the Editors of the Annals and Magazine of Natural History.

"What can we reason but from what we know?"—*Pope.*

Differences of Neuters in Ants.—In the account of the Proceedings of the Entomological Society of the 1st of June, 1840, published in the last Number of this Journal, it is said,—"Mr. Shuckard also stated his opinion, that there was never more than one kind of Neuter among the Ants." As this might be understood to imply that I am ignorant of what has been stated by Huber, Lund, and others, of there being different classes of Neuters—viz. Soldiers and Workers—I request to state, that my observation was the result of the careful study of an extensive collection of the Social Heterogyna, in which, with but one exception, and that in a rare genus, I have detected only one description of neuters, for mere differences of size are of no importance, knowing as we do how much most insects vary in this respect. To this I alluded at the time. Where a functional difference exists, we are prepared, from analogy, to expect corresponding structural differences; but not finding these, I apprehend we may more correctly attribute what has been observed either to an enlarged instinct peculiar to certain genera of this tribe of insects, capable of being alternately exercised by all their individuals under certain influences, and not restricted to a certain class, or perhaps to the preoccupied imagination of the observers themselves. It has been said, that the heads of the soldiers are proportionally larger: if such be the case, it is remarkable that describers have not given the descriptions of two kinds of neuters, especially in the European genus *Atta*. The respective types of the two distinct forms of a neuter which I mentioned above as the only exception to the generality of my observation, are the *Formica* (*Eciton*) *hamata*, Latr., and *curvidentata*, Latr.

Under the date of October 5th likewise, in the same Number of this Journal, it is stated that Mr. Smith exhibited *the two* distinct kinds of neuters of *Formica sanguinea*, but it is not said whether any distinction exists beyond differences of size. This I should much like to know, as I was not present at that meeting of the Society.

Obscurity will necessarily involve the natural history of the Social Heterogyna until competent observers pursue its investigation in tropical climates; and it is very much to be regretted that Lund should either not have availed himself of his skill and opportunities, or that their results should still be withheld from the entomological public.—W. E. S.

Doubtful identity of Miscus campestris and Ammophila sabulosa.—Under the date of September 7, it is mentioned that Mr. Smith exhibited specimens of *Miscus campestris* and *Ammophila vulgaris,* taken *in copulâ,* whence he was led to consider the former only as a variety of the latter species. From the known interest I take in the Fossorial Hymenoptera, I may be excused for observing that I cannot participate in Mr. Smith's opinion; for notwithstanding the *possibility* of *generic* identity in the two insects, there cannot be the least doubt of their *specific* distinction. I might just as confidently state that *Osmia hirta* and *Chelostoma maxillosa* are identical, because I took them under the same circumstances. Besides, many well-authenticated instances are known of widely dissimilar insects being found in equally suspicious conjunction.—W. E. S.

Reports of Discussions.—I wish to remark upon the reports of the discussions that succeed the reading of papers at the Entomological Society, that *vivâ voce* expressions of opinion ought to be submitted, prior to publication, to their several originators to ensure accuracy; and indeed, even if the *report be correct,* a man may not care to have an opinion go forth to the world which was struck out only in the heat of argument. I think the Geological Society acts far more wisely by prohibiting the publication of their *extempore* discussions, as this and other journals present adequate means for all who desire to announce their views.—W. E. SHUCKARD.

Chelsea, April 22, 1841.

OBITUARY:—C. S. RAFINESQUE.

"Constantine S. Rafinesque-Schmaltz, a Sicilian by birth, first went to North America in the year 1802, where he remained for three years; and returning from his native land in 1815, continued to reside in the United States until his decease in September last (1840). The name of this eccentric, but certainly gifted person, has been connected with the natural history of this country for the last thirty-five years; yet, from the manner of their publication, many of his scattered writings are little known to men of science. It is chiefly as a naturalist that Rafinesque is known, although his attention has by no means been restricted to Natural History; since works on Antiquities, Civil History, Philology, Political Œconomy, Philosophy, and even a poem of nearly six thousand lines, have proceeded from his pen. Botany, however, was his favourite pursuit, and the subject of a large portion of his writings. Our task," says his biographer, "although necessary, as it appears to us, is not altogether pleasing; for while we would do full justice to an author, who, in his early days, was in some respects greatly in advance of the other writers on the botany of this country, and whose labours have been disregarded or undervalued on account of his peculiarities, we are obliged, at the same time, to protest against all of his later and one of his earlier botanical works. * * * * *

"A gradual deterioration will be observed in Rafinesque's botanical writings from 1819* to about 1830, when the passion for establishing new genera and species appears to have become a complete *monomania.* This is the most charitable supposition we can entertain, and is confirmed by the opinions of those who knew him best. Hitherto we have been particular in the enumeration of his scattered productions†, in order to facilitate the labours of those who may be disposed to search through bushels of chaff for the grain or two of wheat they perchance contain. What consideration they may deserve, let succeeding botanists determine; but we cannot hesitate to assert that none whatever is due to his subsequent works."—*Silliman's American Journal, April* 1841.

METEOROLOGICAL OBSERVATIONS FOR JUNE 1841.

Chiswick.—June 1, 2. Very fine. 3, 4. Fine, with very dry air. 5. Slightly overcast. 6. Very fine: slight rain. 7. Cold and dry: showery and cold. 8, 9. Cloudy and cold. 10. Very fine. 11. Cloudy. 12. Slight rain: clear. 13. Cloudy and cold: clear at night. 14. Very fine. 15. Slight drizzle: cloudy and fine. 16, 17. Very fine. 18. Sultry: rain, with distant thunder and lightning at night. 19. Sultry: rain. 20. Very fine: rain. 21. Heavy showers, with sultry intervals. 22. Very fine: cloudy. 23. Overcast and fine: very heavy rain at noon. 24. Showery: heavy rain at night. 25. Rain. 26. Cloudy. 27. Showery. 28. Rain. 29. Cloudy: showery. 30. Fine.—The mean temperature of the month was about 2° below the average.

Boston.—June 1—4. Fine. 5, 6. Cloudy. 7. Cloudy: rain A.M. and P.M. 8. Cloudy: rain early A.M. 9. Cloudy. 10. Fine. 11—13. Cloudy. 14—17. Fine. 18. Fine: therm. 3 o'clock 74°. 19. Cloudy: rain early A.M.: rain P.M. 20. Fine: rain P.M. 21. Cloudy: brisk wind. 22, 23. Fine. 24. Fine: rain, with thunder and lightning P.M. 25. Rain. 26. Cloudy: rain P.M. 27. Fine. 28. Rain: rain P.M. 29. Fine: rain with thunder and lightning P.M. 30. Fine.

Applegarth Manse, Dumfries-shire.—June 1. Clear and warm. 2. Bright and cool. 3. Hail-showers: thunder. 4. Cloudy. 5. Cloudy: rain P.M. 6. Fine but cloudy. 7. Dry and cool. 8. Dry and cool: withering. 9—11. Dry and cool. 12. Dry and cool, but warmer. 13. Dry and cool. 14. Slight showers. 15, 16. Dry and droughty. 17. Dry and droughty: cloudy. 18. Fine rain and thunder. 19. Rain P.M. 20. Very warm: rain P.M. 21. Heavy showers. 22. Fair all day. 23. Fair and fine. 24. Fair and fine: thunder. 25. Wet nearly all day. 26. Slight showers: thunder. 27. Fair till 4 o'clock: rain. 28. Showery all day. 29. Showery all day: thunder. 30. Rain P.M.

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[*] "It was in this year (1819)," remarks Dr. Silliman, "that I became alarmed by a flood of communications, announcing new discoveries by C. S. Rafinesque, and being warned, both at home and abroad, against his claims, I returned him a large bundle of memoirs, prepared with his beautiful and exact chirography, and in the neatest form of scientific papers. This will account for the early disappearance of his communications from this Journal. The step was painful, but necessary; for, if there had been no other difficulty, he alone would have filled the Journal, had he been permitted to proceed."

[†] Our readers will find these contained in an article of twenty-one pages in Silliman's Journal.

Meteorological Observations made at the Apartments of the Royal Society by the Assistant Secretary, Mr. Roberton; *by* Mr. Thompson *at the Garden of the Horticultural Society at Chiswick, near London; by* Mr. Veall *at Boston, and by* Mr. Dunbar *at Applegarth Manse, Dumfries-shire.*

Days of Month. 1841. June.	Barometer.						Thermometer.								Wind.				Rain.				Dew-point.
	London: Roy. Soc. 9 a.m.	Chiswick.		Boston. 8¾ a.m.	Dumfries-shire.		London: Roy. Soc.			Chiswick.		Boston 8¾ a.m.	Dumfries-shire.		London: Roy. Soc. 9 a.m.	Chiswick 1 p.m.	Bost.	Dumfries-shire.	London: Roy. Soc. 9 a.m.	Chiswick.	Boston.	Dumfries-shire.	Lond.: Roy. Soc. 9 a.m.
		Max.	Min.		9 a.m.	8¾ p.m.	Fahr. 9 a.m.	Self-register. Max.	Min.	Max.	Min.		Max.	Min.									
1.	30·214	30·137	30·122	29·50	29·98	30·00	64·3	80·5	56·2	72	47	65	62	51	S.	NE.	W.	W.	...	...	...	...	61
2.	30·272	30·177	30·167	29·55	29·98	30·08	65·0	82·3	55·3	75	53	66	56	41½	S.	W.	W.	W.	...	...	...	...	62
3.	30·250	30·254	30·157	29·62	29·98	30·05	63·0	73·4	56·5	73	41	63	55	38½	N.	W.	W.	SW.	...	...	...	...	59
○ 4.	30·440	30·357	30·300	29·79	30·15	30·11	62·7	73·6	52·2	72	46	57	56	47½	W.	NW.	NW.	SW.	...	...	...	...	53
5.	30·250	30·210	30·004	29·65	30·00	29·92	62·2	73·6	52·0	73	46	58	58	48	W.	W.	W.	SW.	...	·03	...	...	54
6.	30·036	29·981	29·923	29·55	29·95	29·92	55·3	69·0	51·3	59	40	51·5	61	40½	WNW.	NE.	NW.	N.	·019	·01	...	...	54
7.	29·964	29·956	29·921	29·40	30·00	30·04	51·3	60·0	45·3	57	46	49	56½	41	NW.	N.	NW.	N.	...	·02	...	0·06	50
8.	29·996	29·974	29·958	29·48	30·09	30·04	51·0	56·4	47·6	56	46	51·5	59½	43½	NW.	N.	N.	NE.	...	...	·25	...	51
9.	29·970	29·947	29·911	29·47	30·01	29·95	50·3	57·2	47·4	57	39	51·5	61	44	NNW.	NE.	N.	NE.	...	...	...	...	47
10.	29·838	29·815	29·669	29·27	29·87	29·69	52·3	57·6	47·8	71	41	57	76	50	NW.	N.	N.	NW.	...	...	...	...	47
11.	29·722	29·775	29·687	29·22	29·74	29·84	50·5	68·7	49·3	54	45	50	59	46½	NW.	N.	N.	NE.	...	...	...	...	50
☾ 12.	29·850	29·973	29·807	29·37	29·89	29·88	50·7	54·7	46·8	53	37	50	63½	41½	N.	NE.	N.	SW.	...	·01	...	...	47
13.	30·064	30·040	29·944	29·53	30·00	29·96	50·2	55·2	47·0	65	37	57	61	38	NW.	NW.	calm	NW.	...	...	...	...	47
14.	30·100	30·047	29·906	29·47	29·93	29·78	57·3	72·6	46·7	72	53	59·5	54	39	W.	NW.	calm	W.	...	...	...	0·04	48
15.	29·940	30·097	29·895	29·25	29·81	30·00	57·4	66·0	55·6	69	36	57	61	47½	W.	NW.	W.	W & E.	...	·01	...	...	53
16.	30·274	30·208	30·111	29·65	30·02	29·97	60·5	67·8	47·7	72	41	59	61½	44	S.	S.	calm	SW&S.	...	...	...	...	50
17.	30·136	30·079	29·875	29·39	29·91	29·83	61·7	80·3	51·5	70	41	66	61	52½	S.	S.	calm	S.	...	...	...	...	56
18.	29·822	29·788	29·605	29·18	29·70	29·61	64·3	76·4	53·6	80	54	65	59½	53½	NNW.	S.	calm	SE.	...	·24	...	...	56
● 19.	29·650	29·689	29·607	29·05	29·58	29·58	60·7	75·0	58·2	69	45	60	63	51½	W.	W.	calm	E.	·111	·08	·38	...	59
20.	29·842	29·759	29·724	29·22	29·58	29·40	64·3	87·0	51·2	66	54	63	65½	52	S.	SW.	calm	E.	·027	·02	·08	...	57
21.	29·848	29·959	29·769	29·18	29·42	29·62	64·2	71·0	56·3	71	47	65	61	52½	S var.	SW.	W.	SSE.	...	·26	·06	0·88	57
22.	30·118	30·059	29·994	29·50	29·78	29·80	61·7	70·2	53·7	73	46	64	61	49½	S.	W.	W.	SSE.	·366	·01	...	...	56
23.	30·030	30·028	29·812	29·42	29·81	29·75	62·0	69·7	53·4	73	46	64	64	50	S.	S.	calm	SSW.	...	·40	...	...	56
24.	29·800	29·741	29·639	29·25	29·70	29·68	63·0	69·4	53·8	72	54	66	67	46	E.	W.	calm	SE.	...	·49	...	...	55
☽ 25.	29·542	29·543	29·494	29·10	29·61	29·50	55·7	68·4	56·2	70	54	57	54	47	E.	SW.	E.	E & SE.	·525	·04	1·08	...	58
26.	29·686	29·774	29·605	29·10	29·43	29·51	64·0	78·0	56·2	67	52	64	66	48½	S.	SW.	S.	S.	·133	...	·32	...	59
27.	30·012	30·128	29·951	29·38	29·73	29·89	62·5	67·6	56·4	70	52	67	64	49½	W.	W.	W.	WNW.	...	·10	·34	...	59
28.	30·012	29·981	29·773	29·44	29·65	29·60	58·3	68·7	55·3	62	50	58	57	51	S.	S.	W.	S.	·430	·65	·01	1·00	58
29.	29·820	29·817	29·743	29·22	29·58	29·70	61·3	67·4	52·8	69	48	63	64	47½	S.	SW.	W.	E.	·675	·07	·30	...	57
30.	30·046	30·093	29·927	29·43	29·88	29·86	59·7	73·6	52·7	67	52	63	60	50½	W.	NW.	calm	W.	·022	·01	·23	...	56
Mean.	29·985	29·979	29·866	29·38	29·825	29·818	58·9	69·7	52·2	67·30	49·56	59·5	61	47·4					Sum. 2·308	2·45	3·05	1·98	Mean. 54